

**Amendments to the Abstract:**

The invention relates to a combined sensor and heating element ~~(1)~~ which is particularly suitable for a motor vehicle seat. Said sensor and heating element comprises a sensor mat which comprises a carrier film ~~(2)~~ and a cover file ~~(3)~~, sensors ~~(6)~~ which are arranged between the carrier film ~~(2)~~ and the cover film ~~(3)~~, and sensor conductor paths, in addition to a heating conductor arrangement. According to the invention, the conductor paths ~~(4)~~ of the heating conductor arrangement are integrated into the sensor mat.